

REMARKS/ARGUMENTS

Claims 1-4 are pending herein. Claims 1 and 2 have been rewritten hereby. New claims 3 and 4 have been added hereby as supported by original claim 2 and paragraphs [0039]-[0049] of the specification, for example. Applicants respectfully submit that no new matter has been added.

1. Claims 1 and 2 were rejected under §103(a) over Takeuchi ('196) in view of Funemi (JP '283). Applicants respectfully traverse this rejection.

Independent claim 1 recites a piezoelectric/electrostrictive film type device comprising a ceramic substrate, and a piezoelectric/electrostrictive operation portion stacked on the substrate. The operation portion includes at least one piezoelectric/electrostrictive layer having an upper exposed surface containing open pores and at least one pair of electrodes electrically connected to the piezoelectric/electrostrictive layer. The chemical structure of at least one of an outer surface of the piezoelectric/electrostrictive layer and an upper electrode of the at least one electrode pair defines a highly water repellent surface.

Claim 2 depends from claim 1 and recites that the highly water repellent surface inhibits moisture infiltration into the open pores of the upper exposed surface of the piezoelectric/electrostrictive layer.

Applicants respectfully submit that there is no recognition in Takeuchi that pores would even be present on any portions of the piezoelectric/ electrostrictive layer or the upper electrode, and there is certainly no recognition that moisture infiltration into such unrecognized pores would or even could cause deterioration over time, or that moisture infiltration into the otherwise unrecognized pores would or even could present any problems whatsoever.

Further, Applicants respectfully submit that Takeuchi does not disclose or suggest a piezoelectric/electrostrictive layer having an upper exposed surface, much less that the otherwise unrecognized open pores would be present on such an undisclosed upper exposed surface of the piezoelectric/electrostrictive layer. That is,

in Takeuchi, the upper surface of the piezoelectric/electrostrictive layer is entirely covered by the upper electrode layer. Even if, *arguendo*, the PTO were to argue that open pores were present in Takeuchi's piezoelectric/electrostrictive layer, even in view of the lack of any supporting disclosure or suggestion in Takeuchi to that effect, Applicants respectfully submit that these *arguendo* pores would still be covered by the upper electrode layer and thus, would not be present on any upper, exposed surface of the piezoelectric/electrostrictive layer since the piezoelectric/electrostrictive layers in Takeuchi's structures do not have any upper exposed surfaces.

The secondary reference, Funemi, provides a protective coating for structures that are diced in a water dicing machine, primarily to withstand the dicing operation conditions. Applicants respectfully submit, however, that one skilled in the art would not have had any reason to even look to Funemi when considering possible modifications to Takeuchi because (1) there is no recognition in Takeuchi of open pores or that moisture infiltration into the unrecognized open pores would create any sort of a problem, and (2) there is no disclosure or suggestion in Takeuchi that the devices disclosed therein are subject to any such water dicing operations.

Moreover, Applicants respectfully submit that Funemi's device is a passive device, whereas Takeuchi's device is an active device designed for high frequency movement. Applicants respectfully submit that without the benefit of Applicants' own disclosure, one of ordinary skill in the art would not have had any reasonable expectation that providing the protective coating used in Funemi's passive device in Takeuchi's active device would even allow Takeuchi's active device to function properly. If anything, Applicants respectfully submit that skilled artisans would have expected that adding an additional coating to Takeuchi's structure, without any known benefit, would have been likely to negatively affect the overall performance of Takeuchi's device. Indeed, without impermissibly relying on the benefit of hindsight, Applicants respectfully submit that one of ordinary skill in the art could not possibly have arrived at the present invention in view of the applied references.

For at least the foregoing reasons, Applicants respectfully submit that all claims pending herein define patentable subject matter over the applied references. Accordingly, Applicants respectfully request that the above rejection be reconsidered and withdrawn.

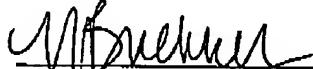
If the Examiner believes that contact with Applicants' attorney would be advantageous toward the disposition of this case, the Examiner is herein requested to call Applicants' attorney at the phone number noted below.

The Commissioner is hereby authorized to charge any additional fees associated with this communication or credit any overpayment to Deposit Account No. 50-1446.

Respectfully submitted,

May 27, 2005

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Date



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